

### Remarks/Arguments

This is a complete response to the Office Action mailed on 1 October 2007 (*Office Action*) in which claims 1-16 were rejected. Reconsideration and further examination of the subject application are respectfully requested.

#### Objection to the Disclosure

The disclosure of the current application was objected to for the informality of misspelling “metalloporphyrins.” The specification has been amended to correct the typographical error.

#### Objection to claim 10

Claim 10, as originally presented, was objected to because of the informality of misspelling “metalloporphyrins.” Claim 10 has been amended to correct the typographical error.

#### 35 USC § 112 Rejection

Claims 1-2 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner has shown that “said porphrin layer” and “said translucent porphyrin layer” on lines 9-10 of claim 1 and line 4 of claim 2 respectively do not have proper antecedent basis.

The phrase, “said porphrin layer” on lines 9-10 of claim 1 has been amended to read: “said **chemical** layer,” (emphasis added) which does have proper antecedent basis. Support for this amendment can be found on page 1, lines 15-18 of the specification. The phrase, “said translucent porphyrin layer” on line 4 of claim 2 has likewise been amended to read, “said translucent **chemical** layer,” (emphasis added) which does have proper antecedent basis. Support for this amendment may be found in claim 1 as originally submitted and on page 4, lines 8 to 13 of the specification. Applicants respectfully submit that the 112 rejection has been overcome and request that the 112 rejection be withdrawn.

35 USC § 103(a) Rejection

Claims 1-16 have been rejected as being unpatentable over U.S. patent 6,649,403 issued to McDevitt et al. (*McDevitt*) in view of U.S. patent 5,867,267 issued to Benech et al. (*Benech*), a Nature 2000 paper entitled “A Colorimetric Sensor Array for Odour Visualization” by Rakow et al. (*Rakow*), and an IEEE paper entitled “Micromechanical Optoelectronic Switch and Amplifier (MIMOSA)” by Waters et al. (*Waters*). Applicants respectfully traverse the rejection because (I) no one with ordinary skill in the art at the time of the invention would have a reason to combine the cited references in the manner suggested by the *Office Action*, (II) and any one with ordinary skill in the art at the time of the invention would not reasonably expect such a combination to succeed.

I. No Suggestion/Motivation to Combine.

*Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. MPEP 2143.01(I)*

Claim 1 of the present application discloses a method wherein a first surface is “flexibly suspended adjacent and parallel to a second surface” such that the gap between the first and second surfaces is adjustable due to a variable electrostatic potential. The Examiner has stated that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the Fabry-Perot cavity of [*McDevitt*] using a process and structure as taught by [*Waters*] because of the sensitivity of the device as taught by [*Waters*].” (*Office Action* page 5) However, Applicants respectfully submit that, at the time of the invention, no one with ordinary skill in the art would be compelled to make such a combination because it was thought by those with skill in the art that the deposition of a sensing substrate on a surface of a Fabry-Perot cavity would induce stress on the surface and lead to the surfaces of the Fabry-Perot cavity

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sticking together. Thus, such a limitation is not found explicitly or implicitly in the cited references or in the generally available knowledge at the time of the invention. In fact, *McDevitt teaches away* from having a flexibly suspended first surface as claimed in claim 1 of the current application. Please consider the following passage from *McDevitt*:

*In some instances, the sensing substrate, when deposited within a cavity of a Fabry-Perot type detector, may cause stress in the top diaphragm of the detector. It is believed that when a sensing polymer coats a planar top diaphragm, extra residual stress on the top diaphragm causes the diaphragm to become deflected toward the bottom diaphragm. If the deflection becomes to [sic] severe, sticking between the top and bottom diaphragms may occur. In one embodiment, this stress may be relieved by the use of supporting members 292 formed within the cavity 286, as depicted in FIG. 4F. (McDevitt col. 16, lines 60-67, col. 17, lines 1-2)*

If *McDevitt* was concerned that the mere coating of the upper surface of a Fabry-Perot type detector would cause deflection, how much greater would be that deflection if the upper surface were hinged/flexible as taught in *Waters*! For these reasons, Applicants respectfully submit that no one with skill in the art at the time of the invention would have any reason to combine the references as suggested.

## II. No Reasonable Expectation of Success.

*The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success.* MPEP 2143.02 (emphasis added)

No one with reasonable skill in the art would combine the cited references in the manner proposed by the Examiner because such a combination would have led to conditions considered problematic at the time of the invention. As explained above, coating an upper surface of a Fabry-Perot type detector was thought to lead to sticking.

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Having a flexible/hinged, coated upper surface would merely exacerbate the sticking problem. Accordingly, there would be no reasonable expectation that the combination, as suggested by the Examiner, would succeed.

Conclusion

For the reasons stated above, Applicants respectfully request withdrawal of the rejection of claims 1-16. Applicants respectfully submit that claims 1-16 of the present application are in condition for allowance.

No Fee is required for this response. Please charge any deficit or credit any excess to Deposit Account No. 50-0847.

Respectfully Submitted,

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